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THE SEED MARKETS OF SOUTH AMERICA: PART TWO

This Circular describes the seed situation of the eastern countries of South America - Argentina, Brazil, Paraguay, and Uruguay. The seed markets of the west coast are discussed in FAS Circular, FFVS 2-57.

ARGENTINA

The current need for seeds in Argentina is substantial, and as funds permit, importations may be expected so that the forage resources may be improved. Many government officials as well as commercial and farm leaders are convinced of the necessity of improving the grasslands. However, there are organizations of producers as well as some government officials who believe that domestic production of seeds can and should be increased. While they may not be able to fully achieve their goals it is undoubtedly likely to greatly reduce the import requirements for seeds in the years to come.

Argentina is a country with great variations in climate and soils. Lying between latitudes 30 and 50° S., the length of day is similar to that of the United States. However, the Andes cut off the rains from the west and much of the area next to the mountains has a very low precipitation which limits production to livestock, except in those areas where water is available for irrigation. The eastern areas receive more moisture and both the crop and livestock farms depend upon rainfall. The seasonal distribution of rainfall varies from one area to another and is a limiting factor in some sections.

Argentina's farm lands are flat to gently rolling over much of the country. There are low lying areas near the major rivers that are too swampy for anything but limited grazing. In the central portion of the country there are extensive areas which are very sandy and subject to blowing. Winds are a factor in the southern half of Argentina, not only because of soil blowing, but also because of the effect upon the establishment of crops and their growth.

The soils are reported, for the most part, to be deficient in phosphates and nitrogen. Most of them are slightly acid to alkaline in reaction. Alkali is a factor in some areas.

The major crops produced in Argentina include corn, wheat, sunflowers, and alfalfa, sudan and the ryegrasses. The country is to a considerable extent, agricultural in its economy, and emphasis is being placed upon the improvement of both the livestock and the crops. Forage crops, being of major importance, are receiving much attention. Furthermore, the previous emphasis upon cereal production exposed much cropland to wind erosion, a serious problem over wide areas of the country, and that is also a factor in the urge to reseed the land to grasses and legumes.

Argentina formerly was a major producer of alfalfa seed but insects and diseases have greatly curtailed the production of that crop. Sudan and the ryegrasses are also produced in substantial quantities and imports are prohibited. No statistics of production of these latter items are available. There is an association of seed producers, farmers who are endeavoring to grow the grass and legume seeds needed for pasture and range improvement. However, there are few seedsmen in a position to buy and clean the seeds for resale to the farmers.

Vegetable seed production has been one of the projects of the Ministry of Agriculture and Livestock for some years, but lacking experienced technicians to guide the program, as well as strong commercial firms, the desired success has not been attained. The program has, however, interfered with the orderly import of seeds. Recently vegetable seed imports were liberalized to the extent that Certificates of Necessity are no longer required. However, the official rate of exchange may not be extended to vegetable seed importers, and this could materially increase the cost of imported seeds. Undoubtedly, the canners and commercial vegetable growers have and will depend to a considerable extent upon imported seed.

Seed imports are controlled through the issuance of monetary licenses. Vegetable seeds may now be imported without a Certificate of Necessity, which is required for field seed imports in addition to the monetary permit. Because of the Government's efforts to improve forage resources, the Ministry is importing seeds for resale to the farmers and such imports are of great assistance to the program, even though they are on a limited scale, considering the extent of the grazing land.

Argentina regulates the quality of imported seeds, both as to purity and germination as well as to freedom from weed seeds. The purity and germination standards are expressed in terms of pure live seed. There are a number of prohibited weed seeds, including odder, Russian thistle, bind weed, tumble weed, etc. A considerable number of others are restricted. The total weed seed content of grass seeds is limited to 1 percent by weight, that of legumes one-half percent. The seeds are sampled at port of entry and not released until a satisfactory report is received from the Government Seed Testing Laboratory.

A phytopathological certificate as well as a certificate of origin visaed by an Argentine Consul are required with each import.

There are no restrictions as to varieties, but as indicated above those kinds believed to be produced in adequate quantities are prohibited - alfalfa, sudan, and the ryegrasses.

A considerable number of United States varieties have been tested in Argentina, and the stations are always willing to test any new material submitted.

There are few seed dealers as we know them in the States, although a considerable number of United States firms have representatives in Buenos Aires. Seed cleaning plants are likewise limited in number and reportedly lacking in modern equipment. The Government Seed Testing Laboratory at Buenos Aires has been in operation for many years but is concerned only with imported seeds. Some dealers avail themselves of its services, but seldom do the farmers.

BRAZIL

Brazil is a very large country, encompassing more than half of South America, and extending from 5°N. to 30°S. latitude, thus lying outside of the latitudes of the United States. It is to a considerable extent tropical, although there are areas adapted to grazing, wheat production, and to dryland farming, the latter similar to our southwest.

The climate over much of Brazil is tropical, but with cool areas in the southern-most province, Rio Grand du Sul, and with other areas in the highlands similarly favored with cooler temperatures. Rainfall shows an equally great variation, from heavy tropical precipitation along the Amazon to scanty rainfall in an area extending from the north coast to Minas Gerais. In some areas the distribution of rainfall affects crop production, but this is not as extensive or as serious as in other South American countries.

Brazil has a wide range in topography, with much of the area flat and low-lying. There are a number of mountain ranges and hilly areas, and there are some plateaus of moderate elevation. The huge Amazon basin is for the most part flat and covered with tropical jungles and low-lying grasslands, and while very fertile, is difficult to clear and maintain for agricultural production.

Brazil produces a large number of crops, but is best known for coffee which occupies a considerable area in Sao Paulo, Santa Catarina and Parana. Corn is a major crop although used principally as food. Wheat and rice are produced in several of the states. Mandioca is an important food crop in most sections. Sugar cane, cocoa, cotton and peanuts are other important crops. Fruits, including grapes for wine, and nuts are grown in favorable areas. Grazing lands are limited and dairy farms are not numerous, although there is a program to improve a section between Sao Paulo and Rio de Janeiro which contemplates dairying.

A low-rainfall area in the northeast could be improved with dry land grasses and legumes for cattle production if it were more accessible. Transportation is a limiting factor in much of Brazil.

Brazil: Imports of seeds by country of origin, 1953-1955

Country of Origin	1953	1954	1955 1/
	<u>1,000 pounds</u>	<u>1,000 pounds</u>	<u>1,000 pounds</u>
Germany	2/	22	6
Argentina	2	3	1
Canada	26	6	-
Denmark	42	50	48
Spain	4	16	9
United States	204	319	200
France	158	114	141
Holland	45	70	3
Japan	8	9	23
Liberia	1	4	1
Morocco	17	-	-
Portugal	7	-	-
Sweden	1	-	-
Australia	-	2/	-
Italy	-	-	3
Total	515	613	435

1/ January-September. 2/ Less than 500 pounds.

PARAGUAY

Paraguay is considered by some to be outside of the tropics but the area lies between the 19th and the 25th degrees, south latitude. In the eastern part there are tropical jungles, to the north the country is uninhabited except by hostile Indians. It is a small and largely undeveloped country. The present development is in an area which some say is the most unproductive portion of the country. However, there is a settlement some 200 miles north of Asuncion, in a rather fertile area, and further development of that area is expected when the highways are completed.

Paraguay has fairly adequate rainfall, although there are areas where it is seasonal, thereby limiting crop production. The climate is mostly tropical - hot and humid. The topography is flat to rolling but there are some hill lands. The agricultural area is definitely rolling, perhaps some would call it hilly.

The area adjacent to Asuncion is considered rather infertile, but corn, mandioca, cotton and oil palms cover most of it. The corn is an export item as are the products of the oil palm. The cotton production

is used locally. Livestock and livestock products, the major farming activity outside of the Asuncion area, has not reached a level of production to be a factor in the export trade.

There is only a very limited domestic production of seed. Some cotton seed is imported each year to maintain the level of quality of the domestic seed. There is no production of legumes or grasses, but the flint corn is produced by the farmers. The Government agency, STICA, is endeavoring to encourage seed production and to improve the quality. Qualified agronomists are provided by ICA - the country has none - and only now is starting its first agricultural school.

Paraguay does not have a seed law, seed laboratory, or seed merchants. The imports are handled mostly by the Banco del Paraguay, but STICA, has brought in some seed at the instigation of ICA.

Imports, however, must have a certificate of origin, a phytopathological certificate, and an import permit which is primarily a monetary requirement. The Bank attempts to exercise some control over the quality of imports but there is no law governing purity, germination, or weed seed content.

The testing of United States varieties of seeds has been done to a limited extent. Paraguay does not need our grasses since they have an abundance of good native grasses. They are in need of legumes, however, and because of the proximity of Argentina and that country's alfalfa pests, may be interested in some of the United States legumes. Because of the difference in day length our clovers are not likely to thrive in Paraguay.

The imports of seeds are as follows:

Kind of Seed	1952	1953	1954	1955
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Vegetable	3	3	1	6
Alfalfa	-	1	6	-

URUGUAY

Uruguay is a promising market for United States seeds, although economic conditions will determine to a considerable extent the volume imported in any one year. Primarily a livestock producing country, much thought and research is being directed towards forage improvement. Natural conditions (soil and topography) favor forage production rather than grain or other field crops. Many of the native grasses are productive and palatable but pasture management is just in the beginning. Improved pasture crops are being planted, although largely in pure stands.

United States seeds are well-known and favorably received in Uruguay, although safeguards are essential if they are to arrive in good condition after the passage through the tropics. Many United States varieties have demonstrated their usefulness, and many more are under test. However, the Ministry of Ganderia y Agricultura (Livestock and Agriculture) imports approximately 90 percent of the grass and legume seeds and buys wherever suitable qualities are most cheaply obtained. Vegetable seeds are imported by private firms to meet the major portion of the country's needs.

Uruguay is located between 30 and 35° S. latitude on the east coast of South America, that is equivalent to between New Orleans and Memphis. However, the climate seems to be a bit milder. The topography is quite rolling except along the rivers. Rainfall is generally adequate although there is a seasonal distribution that affects production. The soils are considered to be moderately fertile, although phosphate is reported to be deficient. The soils are moderately acid to neutral (5. - 7. pH). It was reported that lime was not especially needed for the growing of alfalfa. Some response to molybdenum was obtained in alfalfa plantings.

The principal types of agricultural production in Uruguay are quite varied - wheat, flax, corn, sunflowers, citrus, rice, sugar cane, beef cattle, sheep, and dairying. However, livestock production occupies the largest area.

Little has been done to improve the forage for the livestock industry, although the Uruguayan central experiment station at Estanzuela is very old and has an excellent reputation. The Food and Agriculture Organization is helping some of the ranchers to conduct tests, and there is an organization of ranchers which is seeking to promote better ranching conditions.

It may be that the Government is assisting in this direction because in 1956 they imported a considerable quantity of grass and legume seeds from the United States. Private trade in the forage crop seeds is very limited because the Government has been selling the imported seeds at cost.

Domestic production of seeds in Uruguay is limited to a few grasses, although the Ministry is trying to encourage seed production, even to the extent of providing portable cleaners that can be moved from ranch to ranch (Estancia). It is likely that it will be some time before such production will materially influence imports. The Government control of imports is much more important, especially since they do not have a statistical basis for the determination of the country's needs. Vegetable seeds are imported, but suffer from the same control. Vegetable seed importers, however, are well organized and make their needs known in such a way that they secure most of the permits requested.

Uruguay has a seed law that sets forth minimums of germination and purity, as well as limits the weed seed content. All imported seeds are sampled and the tests run in the Government seed testing laboratory, which is poorly equipped and lacking in trained analysts. This may account for the practice of selling seeds to Uruguay on a F.O.B. rather than a C.I.F. basis. A certificate of origin and a phytopathological certificate are required for each shipment of imported seeds. The rules of the International Seed Testing Association are followed. Tests and labeling are not required for domestically produced seeds.

There are only a few seedsmen in Uruguay and they deal primarily in vegetable seeds. Most of them have some kind of seed cleaning equipment. The Ministry also has a seed cleaning plant.

United States kinds and varieties of seeds are well known in Uruguay and the stations have tested most of them. The stations are located in the more productive areas (Estanzuela, Paysandu, Melo, Salto, Sayago, and Montevideo). The ranchers who operate on the more rolling country think that their problems cannot all be solved at the Stations, and want to do some of the testing. The Food and Agriculture Organization has been working with a number of them. Part of this interest comes from the lack of long life that formerly was the case with alfalfa plantings. Disease and insect pests which have become such a problem in Argentina are also present in Uruguay.

Imports of selected seeds, by calendar years

Country of Origin	1954	1953	1952
	<u>1,000 pounds</u>	<u>1,000 pounds</u>	<u>1,000 pounds</u>
Alfalfa:			
United States	31	44	-
France	483	289	40
Holland	7	-	2
Italy	101	-	11
Argentina	-	108	-
Peru	-	1/	-
Total	622	441	53
Pasture Seeds:			
United States	1/	24	18
France	9	20	1/
Great Britain	1/	-	1/
Holland	49	31	29
Australia	26	2	31
Canada	2	-	-
New Zealand	46	-	2
Chile	-	79	-
Hungary	-	1/	-
Total	132	156	80

1/ Less than 500 pounds.

Grass and Legume Seeds: United States exports to South America,
1955-56, by country of destination

Country	Total	Alfalfa	Clover	Grasses nes.
	<u>1,000 pounds</u>	<u>1,000 pounds</u>	<u>1,000 pounds</u>	<u>1,000 pounds</u>
Argentina	253	-	22	231
Brazil	26	12	-	14
Bolivia	67	66	1	-
Chile	810	569	233	9
Colombia	116	2	42	73
Ecuador	106	76	2	28
Peru	15	11	2	2
Uruguay	895	147	13	735
Venezuela	31	8	2	21
Total	2,319	891	317	1,113

South America: Import restrictions by countries

Item	Argentina	Bolivia	Brazil	Chile	Colombia	Ecuador	Paraguay	Peru	Uruguay
Licenses:									
Import	yes	yes	yes	yes	yes	yes	yes	yes	yes
Monetary	yes	yes	yes	yes	yes	yes	yes	yes	yes
Export	?	no	no	no	no	-	-	yes	no
Quality Standards:									
Minimum -									
Purity & Germination	yes	no	no	yes	no	no	no	no	yes
Weeds									
Prohibited list	yes	no	dodder	yes	no	-	no	yes	yes
Restricted list	yes	no	-	yes	no	dodder	no	yes	yes
Varietal Restrictions	yes	no	no	no	no	no	no	no	no
American variety tests	yes	yes	yes	yes	yes	yes	yes	yes	yes
Labeling	no	no	no	no	no	no	no	no	yes
Staining	no	no	no	no	no	no	no	no	no
Statistics - Production	alfalfa-yes; others - no	no	no	no	no	no	1/	no	no
Phytopath. Certificates	yes	yes	yes	yes	yes	yes	yes	yes	yes
Origin Certificates	yes	no	yes	yes	yes	yes	yes	yes	yes
Prohibited Seeds	alfalfa sudan bromus cath. ryegrass	no	no	several	no	no	rice cotton corn	no	no
Certified Seed Production:	yes	no	no	no	no	no	no	no	no
Seed Laws	yes	no	yes	yes	no	no	no	no	yes
Import duties	?	no	no	no	2/	no	no	no	no
Seed Laboratory	yes	no	3/	yes	4/	yes	no	yes	5/

1/ STICA production only. 2/ Imports by Caja Agraria tax free. 3/ Small and poorly equipped.

4/ Examined for insects and diseases. 5/ Inadequately equipped.

